WHAT IS THE ADDITIONNAL VALUE OF PHARMACEUTICAL INTERVENTIONS **BEFORE** [¹²³I]-METAIODOBENZYLGUANIDINE SCINTIGRAPHY?



Retrospective

study

Mismatches

selection

Drug-drug

interaction?

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INTRODUCTION & OBJECTIVES

Background :

 $[^{123}I]$ -metaiodobenzylguanidine (mIBG) scintigraphy is a tool to assess the sympathetic innervation. It is especially indicated in our unit to differentiate atypical Parkinson syndromes.

Many drugs are known to interfere with this radiopharmaceutical wich can lead to false results¹.



Aim :

This study was assessed the potential added value of stopping interfering drugs with [¹²³I]-mIBG in a retrospective study before the recent introduction of **pharmaceutical interviews** in a nuclear medicine department.

MATERIAL & METHODS

• 01/01/2010 to 31/03/2022

• Collection of all patients with both a [¹²³I]loflupane (another nuclear medicine imaging indicated in the context of Parkinson Disease, PD) and [¹²³I]mIBG.

• Selection of patients with a **divergent diagnosis** between [¹²³I]loflupane and [¹²³I]mIBG.

• Normally these two paraclinical examinations should lead to the same diagnosis *i.e.* PD or atypical Parkinson syndrome (for example : multiple system atrophy, MSA).

Analysis of each patient's chart and clinical diagnosis.

• Investigation of possible drug interactions.

R DSLUDIS



Analysis of the 2 patients

	Patient n°1	Patient n°2
Paraclinical examinations	<pre>[123]mIBG : normal [123]loflupane: ↘ → in favor of MSA?</pre>	<pre>[¹²³I]mIBG : normal [¹²³I]loflupane: ↘ → in favor of MSA?</pre>
Clinical diagnosis	\rightarrow in favor of PD?	\rightarrow PD of mixed origin?
Potential drug interaction	Amlodipine	Lercanidipine

Would calcium channel blockers disrupt [¹²³I]-mIBG cardiac imaging by increasing sympathetic activity²?

(2) Stefanelli *et al.* Pharmacological interference with 123I-metaiodobenzylguanidine: A limitation to developing cardiac innervation imaging in clinical practice? European Review for Medical and Pharmacological Sciences. 2013 May; 17(10):1326-33

DISCUSSION & CONCLUSION

Risk of underestimating drug interactions because the long-term treatments were not always found

Re-examining these 2 patients but temporarily stopping calcium channel blockers (but progressive disease)?

Conduct a **prospective study** with or without pharmaceutical interview?

Drug interaction can lead to **non-contributory or inconclusive imaging** examinations



There is a medical interest to continuing pharmaceutical interviews in nuclear medicine (and other radiopharmaceuticals?)



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